CANADIAN JOURNAL OF MICROBIOLOGY, VOLUME 17 (1971)

Date of Issue

The dates of issue of each number of this journal will be published on page *ii* of the January number of Volume 18 (Can. J. Microbiol., Vol. 18, No. 1, 1972).

Author Index

Under each name are listed, in chronological order of publication, all articles in which an author has participated.

Abou-Sabe', M.
Suppression of dual-effect mutants of the L-ribulokinase structural gene of *Escherichia coli* B/r
MORAD ABOU-SABE' 1105

Ackerman, A.
Further studies of competition of antigens. I. Variation in immunosuppression induced by alterations of dosage, route of injection, nature of antigen, and immunological status of host
D. EIDINGER, H. F. PROSS, R. S. KERBEL, M. G. BAINES, A. ACKERMAN, and S. A. KHAN 803

Agnihotri, V. P.
Persistence of captan and its effects on microflora, respiration, and nitrification of a forest nursery soil
V. P. AGNIHOTRI 377

Albright, L. J.
Seawater salts – hydrostatic pressure effects upon cell division of several bacteria
LAWRENCE J. ALBRIGHT and JOHN F. HENIGMAN 1246

Alcasid, A.
Immunochemistry of *Mycococcus* and its position within Actinomycetales
J. B. G. KWAPINSKI, A. F. B. CHENG, ALICE ALCASID, and JUDY DOWLER 1537

Allbutt, A. D.
Cyathin, a new antibiotic complex produced by *Cyathus helenae*
A. D. ALLBUTT, W. A. AYER, H. J. BRODIE, B. N. JOHRI, and H. TAUBE 1401

Allen, E. H.
Inhibition of the growth of *Helminthosporium carbonum* by L-cysteine
EDWARD H. ALLEN and GRISCELDA G. HUSSEY 101

Altenbern, R. A.
Marker frequency analysis mapping of the *Staphylococcus aureus* chromosome
ROBERT A. ALTENBERN 903

An expanded genomic map of *Staphylococcus aureus*
ROBERT A. ALTENBERN 1239

Anderes, E. A.
Lipids of antibiotic-sensitive and -resistant strains of *Pseudomonas aeruginosa*
E. A. ANDERES, W. E. SANDINE, and P. R. ELLIKER 1357

Anderson, J. P. E.
Effect of nutritional factors on DDT-degradation by *Mucor alternans*
J. P. E. ANDERSON and E. P. LICHTENSTEIN 1291

Anderson, M.
The Dome fermentor: a versatile unit suitable for batch, continuous, and synchronous cultivation of microorganisms or tissue cells
P. S. S. DAWSON, W. G. W. KURZ, M. ANDERSON, and A. E. YORK 229

Anellis, A.
Effect of irradiation temperature in the range −196 to 95C on the resistance of spores of *Clostridium botulinum* 33A in cooked beef
N. GRECZ, A. A. WALKER, ABE ANELLIS, and D. BERKOWITZ 135

Estimation of an equivalent "12D" process by the normal distribution method
ABE ANELLIS and STANLEY WERKOWSKI 1185

Anthony, E. H.
Particle size, water-stable aggregates, and bacterial populations in lake sediments
D. TSERNOGLOU and E. H. ANTHONY 217

Direct and indirect observations of bacteria on marine pebbles
E. BATOOSINGH and E. H. ANTHONY 655

Arif, B.
Release of viral hemagglutinin and nucleocapsid components after disruption of Sindbis virus with ether
B. ARIF and P. FAULKNER 161

Arnaud, A.
Caractéristiques d'un mutant homothallique de *Saccharomyces cerevisae* Hansen
A. ARNAUD, FRANÇOISE VEZINHET et P. GALZY 425

Etude de la respiration de la levure au cours de la sporulation
FRANÇOISE VEZINHET, A. ARNAUD et P. GALZY 1179

Ashino, K.
Bacterial flora of phyto- and zoo-plankton in the inshore water of Japan
U. SIMIDU, K. ASHINO, and E. KANEKO 1157

Aubé, C.
Les champignons et leur écologie dans un sol ensemencé en trèfle rouge
C. AUBÉ et C. GAGNON 921

Ayer, W. A.
Cyathin, a new antibiotic complex produced by *Cyathus helenae*
A. D. ALLBUTT, W. A. AYER, H. J. BRODIE, B. N. JOHRI, and H. TAUBE 1401

Ayers, W. A.
Induction of sporangia in *Phytophthora cinnamomi* by a substance from bacteria and soil
WILLIAM A. AYERS 1517

Babiuk, L. A.
Properties of polyoma virus transformed cells. I. Oncogenic properties
LORNE A. BABIUK and JAMES B. HUDSON 747

Yeasts of the Matador soils of Saskatchewan and their ability to use flavonoids
J. F. T. SPENCER, L. BABIUK, and R. A. A. MORRALL 1248

Backler, K. L.
Protein synthesis by cell-free extracts of *Proteus vulgaris*
K. L. BACKLER and W. E. INNISS 1545

Bailey, F. J.
Preparation of a highly active form of nisin from *Streptococcus lactis*
F. J. BAILEY and A. HURST 61

Baines, M.
Further studies on competition of antigens. II. Cellular deficit or inhibitory factor: an indirect evaluation of the problem
DAVID EIDINGER and MALCOLM BAINES 857

Baines, M. G.
Studies of tolerance to organ antigens. The immune response to A/Jax strain mouse organs in normal and A/Jax strain mouse liver tolerant rabbits
M. G. BAINES and D. EIDINGER 467

Further studies of competition of antigens. I. Variation in immunosuppression induced by alterations of dosage, route of injection, nature of antigen, and immunological status of host
D. EIDINGER, H. F. PROSS, R. S. KERBEL, M. G. BAINES, A. ACKERMAN, and S. A. KHAN 803

Baker, F.
A field trial with live attenuated mumps virus vaccine: a serological study
E. ROSSIER, J. MEUNIER, F. BAKER, and V. MARCHESSAULT 929

Baldwin, J. N.
Intraspecific transduction in *Staphylococcus epidermidis* and interspecific transduction between *Staphylococcus aureus* and *Staphylococcus epidermidis*
LING YU and J. N. BALDWIN 767

Balish, E.
Methionine biosynthesis in *Candida albicans*. I. S-Adenosyl-L-methionine (or S-methyl-L-methionine): homocysteine methyltransferase in cell-free extracts from yeast-like cells
D. N. MARDON and E. BALISH 795

Germ-tube production by *Candida albicans* in minimal liquid culture media
D. N. MARDON, S. K. HURST, and E. BALISH 851

Ball, A. J. S.
Mitochondriogenesis: a comparative study of some commonly used strains of *Saccharomyces cerevisiae*
A. J. S. BALL, R. M. JANKI, and E. RENO TUSTANOFF 1125

Barker, A. D.
Therapeutic effects of a series of non-viral interferon inducers on a viral-induced leukemia
M. S. RHEINS, A. D. BARKER, and H. E. WILSON 1259

Batoosingh, E.
Direct and indirect observations of bacteria on marine pebbles
E. BATOOSINGH and E. H. ANTHONY 655

Bauer, H.
Mitosis in *Penicillium chrysogenum* and *Penicillium notatum*
SYDNEY CRACKOWER and HEINZ BAUER 605

Bazinet, G.
Genetic and biochemical studies of the hexose monophosphate shunt in *Neurospora crassa*. I. The influence of genetic defects in the pathway on colonial morphology
KATHYRN E. FUSCALDO, JOHN F. LECHNER, and GEORGE BAZINET 783

Genetic and biochemical studies of the hexose monophosphate shunt in *Neurospora crassa*. II. Characterization of biochemical defects of the morphological mutants colonial 2 and colonial 3
JOHN F. LECHNER, KATHYRN E. FUSCALDO, and GEORGE BAZINET 789

Bean, G. A.
Effect of dimethyl sulfoxide on the sclerotia of *Sclerotium rolfsii*
J. H. MELHUISH, JR., and G. A. BEAN 429

Behal, F. J.
Naphthylamidases of *Sarcina lutea*
FRANCIS J. BEHAL and RITA T. CARTER 39

Behki, R. M.
Recovery of metabolic activity in *Escherichia coli* following limited exposure to myxin
S. M. Lesley and R. M. Behki 1327

Berkowitz, D.
Effect of irradiation temperature in the range −196 to 95C on the resistance of spores of *Clostridium botulinum* 33A in cooked beef
N. Grecz, A. A. Walker, Abe Anellis, and D. Berkowitz 135

Bernheim, F.
The effect of quaternary ammonium derivatives of bile acids on the rate of swelling of *Pseudomonas aeruginosa* in solutions of sodium and potassium salts
Frederick Bernheim and Leon Lack 323

Bernstein-Ziv, R.
The effect of hypotonic solutions on the morphology of cells of *Mycoplasma gallisepticum*
Ruth Bernstein-Ziv 1203

Best, G. K.
The effect of temperature on lysis of cells and cell walls of *Bacillus psychrophilus*
Stephen J. Mattingly and Gary K. Best 1161

Bibel, D. J.
A simple method for scanning electron microscopy of L-form colonies grown on agar
David J. Bibel and John W. Lawson 822

Black, S. H.
Haemophilus vaginalis 594, a Gram-negative organism?
B. Sue Criswell, Judith H. Marston, Wayne A. Stenback, S. H. Black, and Herman L. Gardner 865

Blackwood, A. C.
Yeasts from the St. Lawrence River
R. E. Simard and A. C. Blackwood 197

Ecological studies on yeasts in the St. Lawrence River
R. E. Simard and A. C. Blackwood 353

Blakley, E. R.
The metabolism of *p*-fluorophenylacetic acid by a *Pseudomonas* sp. I. Isolation and identification of intermediates in degradation
D. B. Harper and E. R. Blakley 635

The metabolism of *p*-fluorophenylacetic acid by a *Pseudomonas* sp. II. The degradative pathway
D. B. Harper and E. R. Blakley 645

The metabolism of *p*-fluorobenzoic acid by a *Pseudomonas* sp.
D. B. Harper and E. R. Blakley 1015

Bland, J.
Increase in glyoxylate shunt enzymes during cellular morphogenesis in *Myxococcus xanthus*
J. Bland, Wu-Kuang Yeh, D. White, and A. Hendricks 209

Blankenship, L. C.
A disulfide reductase in spores of *Bacillus cereus* T
Leroy C. Blankenship and J. R. Mencher 1273

Blazevic, D. J.
Differentiation of human mycoplasma using gas chromatography
Donna M. Meyer and Donna J. Blazevic 297

Bleviss, M.
Self-assembly of bacteriophage lambda tails
Morley Bleviss and K. B. Easterbrook 947

Boulanger, R. P.
Comparison between the antigenic components extracted from virulent and avirulent strains of mycobacteria
R. Turcotte and R. P. Boulanger 95

Bradley, D. E.
Structural changes in cells of *Clostridium perfringens* infected with a short-tailed bacteriophage
David E. Bradley and Judith F. M. Hoeniger 397

Structural changes in cells of *Clostridium sporogenes* infected with a long-tailed bacteriophage
Judith F. M. Hoeniger and David E. Bradley 1567

Brodie, H. J.
The physiology of production of the antibiotic cyathin by *Cyathus helenae*
B. N. Johri and H. J. Brodie 1243

Cyathin, a new antibiotic complex produced by *Cyathus helenae*
A. D. Allbutt, W. A. Ayer, H. J. Brodie, B. N. Johri, and H. Taube 1401

Brooks, J. B.
Analysis by gas chromatography of fatty acids found in whole cultural extracts of *Neisseria* species
J. B. Brooks, D. S. Kellogg, L. Thacker, and E. M. Turner 531

Brouzes, R.
Inhibition of growth of *Clostridium pasteurianum* by acetylene: implication for nitrogen fixation assay
R. Brouzes and R. Knowles 1483

Brown, J. P.
Susceptibility of the cell walls of some yeasts to lysis by enzymes of *Helix pomatia*
Joseph P. Brown 205

Observations on budding cells of *Torulopsis glabrata*
J. P. Brown and Mercedes R. Edwards 609

Buckmire, F. L. A.
Evidence for the release at low salt concentration of a lipid–protein–carbohydrate complex from isolated envelopes and whole cells of a marine pseudomonad
F. L. A. BUCKMIRE and ROBERT A. MACLEOD 713

Buera, J. G.
A comparison of the protective effect against Mengo virus infection in mice of interferons induced by polyI:C and Mengo virus
J. B. CAMPBELL and JULIETA G. BUERA 1525

Bulla, L. A.
Germination and outgrowth of *Bacillus thuringiensis* and *Bacillus alvei* spores viewed by scanning electron and phase-contrast microscopy
GRANT ST. JULIAN, LEE A. BULLA, JR., and CLIFFORD W. HESSELTINE 373

Physiology of sporeforming bacteria associated with insects. III. Radiorespirometry of pyruvate, acetate, succinate, and glutamate oxidation
LEE A. BULLA, JR., GRANT ST. JULIAN, and ROBERT A. RHODES 1073

Bunn, C. R.
The phospholipid composition of *Rhizobium japonicum*
C. R. BUNN and G. H. ELKAN 291

Burges, A.
The influence of soil moisture tension on the fungal population of a pinewood soil
M. SHAMEEMULLAH, D. PARKINSON, and A. BURGES 975

Burmeister, H. R.
Selection and characterization of a pleomorphic form and an L form of *Bacillus pumilus* NRRL B-3275
H. R. BURMEISTER and C. W. HESSELTINE 1057

Burton, P. R.
Electron microscopic studies of the rickettsia *Coxiella burneti;* entry, lysosomal response, and fate of rickettsial DNA in L-cells
PAUL R. BURTON, NONNA KORDOVÁ, and DAVID PARETSKY 143

Buscher, T. J.
Fluctuating virus and enzyme levels in plasma of mice infected with the Friend leukemia virus
T. J. BUSCHER, C. FRANTSI, and K. F. GREGORY 315

Butler, M. E.
Bacteriocins of *Clostridium perfringens*. 1. Isolation and preliminary studies
D. E. MAHONY and M. E. BUTLER 1

Bacteriocins of *Clostridium perfringens*. 2. Studies on mode of action
D. E. MAHONY, M. E. BUTLER, and R. G. LEWIS 1435

Calleja, G. B.
Flocculation in a fission yeast: an initial step in the conjugation process
G. B. CALLEJA and B. F. JOHNSON 1175

Cameron, M. L.
Observations on the polyhedra and virions of the cabbage looper nuclear polyhedrosis virus, with special reference to the viral membranes
E. L. DRAKE and M. L. CAMERON 263

Campbell, J. B.
A comparison of the protective effect against Mengo virus infection in mice of interferons induced by polyI:C and Mengo virus
J. B. CAMPBELL and JULIETA G. BUERA 1525

Campbell, W.
Emesis and diarrhea induced by enterotoxin of *Clostridium perfringens* type A in monkeys
A. H. W. HAUSCHILD, M. J. WALCROFT, and W. CAMPBELL 1141

Campbell, W. P.
The fine structure of resting mycelium of *Verticillium albo-atrum* R. & B.
D. A. GRIFFITHS and W. P. CAMPBELL 1533

Carter, R. T.
Naphthylamidases of *Sarcina lutea*
FRANCIS J. BEHAL and RITA T. CARTER 39

Chadwick, P.
The effect of mitomycin C on the pyocine typing patterns of hospital strains of *Pseudomonas aeruginosa*
G. S. TRIPATHY and P. CHADWICK 829

Chang, P.-C.
Hydroxyl apatite column chromatography of enterotoxin B
P.-C. CHANG, N. DICKIE, and F. S. THATCHER 296

Fractionation of staphylococcal enterotoxin C_2 by isoelectric focusing
P.-C. CHANG, Y. YANO, M. DIGHTON, and N. DICKIE 1367

Heterogeneity of staphylococcal enterotoxin B
P.-C. CHANG and N. DICKIE 1479

Chang, Y.
Effects of radiation pasteurization on *Salmonella*. II. Influence of repeated radiation-growth cycles on virulence and resistance to radiation and antibiotics
JOSEPH J. PREVITE, YINETTE CHANG, W. SCRUTCHFIELD, and H. M. EL-BISI 105

Effects of radiation pasteurization on *Salmonella*. III. Radiation lethality and the frequency of mutation to antibiotic resistance
JOSEPH J. PREVITE, Y. CHANG, and H. M. EL-BISI 385

Charles, A. M.
Effect of growth substrate on enzymes of the citric and glyoxylic acid cycles in *Thiobacillus novellus*
A. MICHAEL CHARLES 617

Charupatana, C.
Antibodies to indigenous bacteria in human serum, secretions, and urine
SITTAYA SIRISINHA and CHINDA CHARUPATANA 1471

Chaudhary, R. K.
Serological cross-reactivity within the picornaviruses as studied by electron microscopy
R. K. CHAUDHARY, D. A. KENNEDY, and J. C. N. WESTWOOD 477

Cheng, A. F. B.
Immunochemistry of *Micrococcus* and its position within Actinomycetales
J. B. G. KWAPINSKI, A. F. B. CHENG, ALICE ALCASID, and JUDY DOWLER 1537

Cheng, K.-J.
Identification of products produced by the anaerobic degradation of naringin by *Butyrivibrio* sp. C_3
K.-J. CHENG, H. G. KRISHNAMURTY, G. A. JONES, and F. J. SIMPSON 129

Chevalier, J. L.
The effect of reticulocytosis on *Plasmodium vinckei* infection in white mice. Action of phenylhydrazine and of repeated bleedings
P. VIENS, J. L. CHEVALIER, S. SONEA, and M. YOELI 257

Child, J. J.
Degradation of rutin by *Aspergillus flavus*. Purification of the dioxygenase, quercetinase
T. OKA, F. J. SIMPSON, J. J. CHILD, and SISTER CECILY MILLS 111

Purification and properties of a phenol carboxylic acid acyl esterase from *Aspergillus flavus*
J. J. CHILD, T. OKA, F. J. SIMPSON, and H. G. KRISHNAMURTY 1455

Christison, J.
Isolation and preliminary characterization of an extracellular protease of *Cytophaga* sp.
J. CHRISTISON and S. M. MARTIN 1207

Chung, K. L.
Thickened cell walls of *Bacillus cereus* grown in the presence of chloramphenicol: their fate during cell growth
K. L. CHUNG 1561

Ciegler, A.
Aflatoxin biosynthesis in *Aspergillus parasiticus*: effect of methionine analogs
R. W. DETROY and A. CIEGLER 569

Tremorgenic toxins from penicillia. II. A new tremorgenic toxin, tremortin B, from *Penicillium palitans*
C. T. HOU, A. CIEGLER, and C. W. HESSELTINE 599

Clark, D. S.
Studies on the surface plate method of counting bacteria
D. S. CLARK 943

Colotelo, N.
Presence of sacs enveloping the liquid droplets on developing sclerotia of *Sclerotinia sclerotiorum* (Lib.) DeBary
N. COLOTELO, J. L. SUMNER, and W. S. VOEGELIN 300

Chemical studies on the exudate and developing sclerotia of *Sclerotinia sclerotiorum* (Lib.) DeBary
N. COLOTELO, J. L. SUMNER, and W. S. VOEGELIN 1189

Cooney, J. J.
Effects of glutamic acid on sporulation of *Bacillus cereus* and on spore properties
R. S. KENNEDY, F. J. MALVEAUX, and J. J. COONEY 511

Corke, C. T.
Formation of 3,3′,4,4′-tetrachloroazobenzene from 3,4-dichloroaniline in Ontario soils
G. D. SPROTT, and C. T. CORKE 235

Corpe, W. A.
Polyacrylamide gel electrophoresis of exoenzymes produced by *Pseudomonas fluorescens* strain W
HARVEY WINTERS and W. A. CORPE 241

Crackower, S.
Mitosis in *Penicillium chrysogenum* and *Penicillium notatum*
SYDNEY CRACKOWER and HEINZ BAUER 605

Criswell, B. S.
Haemophilus vaginalis 594, a Gram-negative organism?
B. SUE CRISWELL, JUDITH H. MARSTON, WAYNE A. STENBACK, S. H. BLACK, and HERMAN L. GARDNER 865

Crothers, S. F.
Changes in the permeability of *Escherichia coli* during parasitization by *Bdellovibrio bacteriovorus*
S. F. CROTHERS and J. ROBINSON 689

Cummins, C. S.
Catalase activity in *Corynebacterium pyogenes*
C. S. CUMMINS 1001

Cunningham, J. C.
An ultrastructural study of the development of a nuclear polyhedrosis virus of the eastern hemlock looper, *Lambdina fiscellaria fiscellaria*
JOHN C. CUNNINGHAM 69

Dawson, P. S. S.
The Dome fermentor: a versatile unit suitable for batch, continuous, and synchronous cultivation of microorganisms or tissue cells
P. S. S. DAWSON, W. G. W. KURZ, M. ANDERSON, and A. E. YORK 229

Changes in phosphorus composition of *Candida utilis* during the cell cycle and postcycle period
H. GLÄTTLI and P. S. S. DAWSON 339

Alternate methods of nutrient dosing in continuous phased culture
P. S. S. DAWSON and K. L. PHILLIPS 435

Day, D. F.
Localization of L-asparaginase in *Pseudomonas aeruginosa*
D. F. DAY and J. M. INGRAM 1025

deMello, G. C.
Comparison of intranasal and parenteral immunization routes for influenza in mice
P. J. PROVOST, G. C. DEMELLO, and P. J. VASINGTON 1119

Dempster, G.
Ultrastructural evidence of immunological reactions during experimental coxsackievirus B-3 infection in the hibernating squirrel
E. I. GRODUMS and G. DEMPSTER 359

de Repentigny, J.
A comparison of use of carbohydrate, cell structure, and toxin formation in naturally occurring and thymine-requiring *Staphylococcus aureus* strains
J. DE REPENTIGNY and L. G. MATHIEU 1343

Desrochers, R.
Incidence d'*Aeromonas hydrophila* chez la perche, *Perca flavescens* Mitchill
R. VÉZINA and R. DESROCHERS 1101

Detroy, R. W.
Aflatoxin biosynthesis in *Aspergillus parasiticus*: effect of methionine analogs
R. W. DETROY and A. CIEGLER 569

DeVay, J. E.
Growth of fungi on an inorganic medium
C. J. MIROCHA and J. E. DEVAY 1373

Dickie, N.
Hydroxyl apatite column chromatography of enterotoxin B
P.-C. CHANG, N. DICKIE, and F. S. THATCHER 296

Fractionation of staphylococcal enterotoxin C_2 by isoelectric focusing
P.-C. CHANG, Y. YANO, M. DIGHTON, and N. DICKIE 1367

Heterogeneity of staphylococcal enterotoxin B
P.-C. CHANG and N. DICKIE 1479

Diena, B. B.
A tissue culture technique for the assay of antibacterial immune sera
B. B. DIENA, R. WALLACE, C. P. KENNY, and L. GREENBERG 13

Dighton, M.
Fractionation of staphylococcal enterotoxin C_2 by isoelectric focusing
P.-C. CHANG, Y. YANO, M. DIGHTON, and N. DICKIE 1367

DiSalvo, L. H.
Regenerative functions and microbial ecology of coral reefs. I. Assays for microbial population
L. H. DISALVO and K. GUNDERSEN 1081

Regenerative functions and microbial ecology of coral reefs. II. Oxygen metabolism in the regenerative system
LOUIS H. DISALVO 1091

Dmitriev, B. A.
Studies on lipopolysaccharides of *Proteus*
B. A. DMITRIEV, N. A. HINTON, R. W. LOWE, and J. K. N. JONES 1385

Dobardzic, R.
Ultrastructure du bactériophage øRE agissant dans certaines conditions comme une staphylococcine
R. DOBARDZIC, P. PAYMENT et S. SONEA 847

Doetsch, R. N.
Effect of membrane-active antibiotics on motility and ^{42}K permeability of *Pseudomonas fluorescens*
MARIA A. FAUST and R. N. DOETSCH 183

Effect of drugs that alter excitable membranes on the motility of *Rhodospirillum rubrum* and *Thiospirillum jenense*
MARIA A. FAUST and R. N. DOETSCH 191

Donawa, A.
Utilization of glyoxylate by acetate-grown *Bacillus megaterium* KM
A. DONAWA and W. E. INNISS 1002

Dorward, W. J.
Immunization of sheep against experimental *Clostridium perfringens* type A enteritis
L. NIILO, A. H. W. HAUSCHILD, and W. J. DORWARD 391

The role of enterotoxin in *Clostridium perfringens* type A enteritis
A. H. W. HAUSCHILD, L. NIILO, and W. J. DORWARD 987

Dowler, J.
Immunochemistry of *Mycococcus* and its position within Actinomycetales
J. B. G. KWAPINSKI, A. F. B. CHENG, ALICE ALCASID, and JUDY DOWLER 1537

Drake, E. L.
Observations on the polyhedra and virions of the cabbage looper nuclear polyhedrosis virus, with special reference to the viral membranes
E. L. DRAKE and M. L. CAMERON 263

Driedger, A. A.
The enhancement of X-ray-induced DNA degradation in *Micrococcus radiodurans* by phenethyl alcohol
A. A. DRIEDGER and M. J. GRAYSTON 487

Demonstration of two types of DNA repair in X-irradiated *Micrococcus radiodurans*
A. A. DRIEDGER and M. J. GRAYSTON 495

The effects of nalidixic acid on X-ray-induced DNA degradation and repair in *Micrococcus radiodurans*
A. A. DRIEDGER and M. J. GRAYSTON 501

Drury, R. E.
Morphactin influences sexual and asexual reproduction in fungi
G. E. HARMAN, A. A. KHAN, and R. E. DRURY 1477

Dugle, D. L.
Presence of two DNA populations in *Mycoplasma laidlawii*
DAVID L. DUGLE and JANET R. DUGLE 433

Gamma-ray induced strand breakage of *Bacillus subtilis* DNA irradiated in vivo
DAVID L. DUGLE and JANET R. DUGLE 575

Dugle, J. R.
Presence of two DNA populations in *Mycoplasma laidlawii*
DAVID L. DUGLE and JANET R. DUGLE 433

Gamma-ray induced strand breakage of *Bacillus subtilis* DNA irradiated in vivo
DAVID L. DUGLE and JANET R. DUGLE 575

Durbin, R. D.
Induction of adventitious roots by culture filtrates of the hairy root bacterium, *Agrobacterium rhizogenes*
D. L. HOPKINS and R. D. DURBIN 1409

Durham, N. N.
Initiation of spore germination in *Bacillus cereus*: a proposed allosteric receptor
GARY D. WOLGAMOTT and NORMAN N. DURHAM 1043

Eagon, R. G.
Ultrastructure of the cell wall and the mechanism of cellular division of a Gram-variable coccus
H. E. GILLELAND, JR., I. L. ROTH, and R. G. EAGON 421

Easterbrook, K. B.
The ultrastructure of *Crithidia fasciculata*. A freeze-etching study
K. B. EASTERBROOK 277

The intracellular development of vaccinia virus as observed in freeze-etched preparations
K. B. EASTERBROOK and K. R. ROZEE 753

Self-assembly of bacteriophage lambda tails
MORLEY BLEVISS and K. B. EASTERBROOK 947

Edwards, M. R.
Observations on budding cells of *Torulopsis glabrata*
J. P. BROWN and MERCEDES R. EDWARDS 609

Eidinger, D.
Studies of tolerance to organ antigens. The immune response to A/Jax strain mouse organs in normal and A/Jax strain mouse liver tolerant rabbits
M. G. BAINES and D. EIDINGER 467

Further studies of competition of antigens. I. Variation in immunosuppression induced by alterations of dosage, route of injection, nature of antigen, and immunological status of host
D. EIDINGER, H. F. PROSS, R. S. KERBEL, M. G. BAINES, A. ACKERMAN, and S. A. KHAN 803

Further studies on competition of antigens. II. Cellular deficit or inhibitory factor: an indirect evaluation of the problem
DAVID EIDINGER and MALCOLM BAINES 857

El-Bisi, H. M.
Effects of radiation pasteurization on *Salmonella*. II. Influence of repeated radiation-growth cycles on virulence and resistance to radiation and antibiotics
JOSEPH J. PREVITE, YINETTE CHANG, W. SCRUTCHFIELD, and H. M. EL-BISI 105

Effects of radiation pasteurization on *Salmonella*. III. Radiation lethality and the frequency of mutation to antibiotic resistance
JOSEPH J. PREVITE, Y. CHANG, and H. M. EL-BISI 385

Elkan, G. H.
The phospholipid composition of *Rhizobium japonicum*
C. R. BUNN and G. H. ELKAN 291

The biosynthesis of aspartic acid, glutamic acid, and alanine in *Rhizobium japonicum*
THOMAS T. LILLICH and GERALD H. ELKAN 683

Elliker, P. R.
Deoxyribonucleic acid homology in the genus *Lactobacillus*
A. MILLER III, W. E. SANDINE, and P. R. ELLIKER 625

Lipids of antibiotic-sensitive and -resistant strains of *Pseudomonas aeruginosa*
E. A. ANDERES, W. E. SANDINE, and P. R. ELLIKER 1357

Elmayergi, H. H.
Influence of growth of *Streptomyces fradiae* on pepsin-HCl digestibility and methionine content of feather meal
H. H. ELMAYERGI and R. E. SMITH 1067

Evans, H. C.
The fatty acid composition of *Dactylaria and Scolecobasidium*
J. L. SUMNER and H. C. EVANS 7

Faulkner, P.
Release of viral hemagglutinin and nucleocapsid components after disruption of Sindbis virus with ether
B. ARIF and P. FAULKNER 161

Faust, M. A.
Effect of membrane-active antibiotics on motility and ^{42}K permeability of *Pseudomonas fluorescens*
MARIA A. FAUST and R. N. DOETSCH 183

Effect of drugs that alter excitable membranes on the motility of *Rhodospirillum rubrum* and *Thiospirillum jenense*
MARIA A. FAUST and R. N. DOETSCH 191

Fischer, J. B.
The differentiation of *Trichophyton rubrum* and *T. mentagrophytes* by use of Christensen's urea broth
JULIUS KANE and J. B. FISCHER 911

Fletcher, J. T.
The identification of strains of tobacco mosaic virus from tomato crops in Southern Ontario
J. T. FLETCHER and B. H. MACNEILL 123

Flickinger, J. T.
Influence of sensitization with bacterial antigens on the replication of Friend spleen focus-forming virus
JOHN T. FLICKINGER and JOHN M. GENTILE 481

Focht, D. D.
Bacterial degradation of nitrilotriacetic acid (NTA)
D. D. FOCHT and H. A. JOSEPH 1553

Forsyth, M. P.
Salt tolerance of intertidal marine bacteria
M. P. FORSYTH, D. B. SHINDLER, M. B. GOCHNAUER, and D. J. KUSHNER 825

Francisco, D. E.
The effect of carbon monoxide inhibition on the growth of an aquatic streptomycete
DONALD E. FRANCISCO and J. K. G. SILVEY 347

Frantsi, C.
Fluctuating virus and enzyme levels in plasma of mice infected with the Friend leukemia virus
T. J. BUSCHER, C. FRANTSI, and K. F. GREGORY 315

Friend, P. L.
Association of chloramphenicol resistance of group A streptococci with host-controlled restriction and modification of bacteriophages
PATRIC L. FRIEND 1573

Fuscaldo, K. E.
Genetic and biochemical studies of the hexose monophosphate shunt in *Neurospora crassa*. I. The influence of genetic defects in the pathway on colonial morphology
KATHYRN E. FUSCALDO, John F. LECHNER, and GEORGE BAZINET 783

Genetic and biochemical studies of the hexose monophosphate shunt in *Neurospora crassa*. II. Characterization of biochemical defects of the morphological mutants colonial 2 and colonial 3
JOHN F. LECHNER, KATHYRN E. FUSCALDO, and GEORGE BAZINET 789

Gagnon, C.
Les champignons et leur écologie dans un sol ensemencé en trèfle rouge
C. AUBÉ et C. GAGNON 921

Gallegly, M. E.
The value of 21 amino acids as nitrogen sources for *Phytophthora cactorum* and *P. heveae*
J. A. LEAL, M. E. GALLEGLY, and V. G. LILLY 1319

Galzy, P.
Caractéristiques d'un mutant homothallique de *Saccharomyces cerevisiae* Hansen
A. ARNAUD, FRANÇOISE VEZINHET et P. GALZY 425

Etude de la respiration de la levure au cours de la sporulation
FRANÇOISE VEZINHET, A. ARNAUD et P. GALZY 1179

Gardner, H. L.
Haemophilus vaginalis 594, a Gram-negative organism?
B. SUE CRISWELL, JUDITH H. MARSTON, WAYNE A. STENBACK, S. H. BLACK, and HERMAN L. GARDNER 865

Gedies, A.
Substitution of 4-(2-hydroxyethyl)-1-piperazineethane sulfonic acid (HEPES) for bicarbonate in protein-free animal cell culture medium: application to vaccinia virus quantitation and fluorogenic acetylesterase assay in living LM cells
EDWARD L. MEDZON and ADOLPH GEDIES 651

Gentile, J. M.
Influence of sensitization with bacterial antigens on the replication of Friend spleen focus-forming virus
JOHN T. FLICKINGER and JOHN M. GENTILE 481

Gilbert, R. G.
Increased activity of soil microorganisms near sclerotia of *Sclerotium rolfsii* in soil
R. G. GILBERT and R. G. LINDERMAN 557

Gilleland, H. E.
Ultrastructure of the cell wall and the mechanism of cellular division of a Gram-variable coccus
H. E. GILLELAND, JR., I. L. ROTH, and R. G. EAGON 421

Girard, A. E.
A comparative study of the fatty acids of some micrococci
A. E. GIRARD 1503

Glättli, H.
Changes in phosphorus composition of *Candida utilis* during the cell cycle and postcycle period
H. GLÄTTLI and P. S. S. DAWSON 339

Gochnauer, M. B.
Potassium binding, growth, and survival of an extremely halophilic bacterium
M. B. GOCHNAUER and D. J. KUSHNER 17

Salt tolerance of intertidal marine bacteria
M. P. FORSYTH, D. B. SHINDLER, M. B. GOCHNAUER, and D. J. KUSHNER 825

Goldstein, P. A.
Streptococci deficient in genetic transformation
R. PAKULA, L. R. SPENCER, and P. A. GOLDSTEIN 1251

Gorin, P. A. J.
Yeasts isolated from soils of citrus orchards and citrus waste disposal areas in California and Florida: flavonoid utilization
J. F. T. SPENCER and P. A. J. GORIN 871

The genetic control of the two types of mannan produced by *Saccharomyces cerevisiae*
J. F. T. SPENCER, P. A. J. GORIN, and G. H. RANK 1451

Grayston, M. J.
The enhancement of X-ray induced DNA degradation in *Micrococcus radiodurans* by phenethyl alcohol
A. A. DRIEDGER and M. J. GRAYSTON 487

Demonstration of two types of DNA repair in X-irradiated *Micrococcus radiodurans*
A. A. DRIEDGER and M. J. GRAYSTON 495

The effects of nalidixic acid on X-ray-induced DNA degradation and repair in *Micrococcus radiodurans*
A. A. DRIEDGER and M. J. GRAYSTON 501

Grecz, N.
Effect of irradiation temperature in the range −196 to 95C on the resistance of spores of *Clostridium botulinum* 33A in cooked beef
N. GRECZ, A. A. WALKER, ABE ANELLIS, and D. BERKOWITZ 135

Greenberg, L.
A tissue culture technique for the assay of antibacterial immune sera
B. B. DIENA, R. WALLACE, C. P. KENNY, and L. GREENBERG 13

Gregory, K. F.
Fluctuating virus and enzyme levels in plasma of mice infected with the Friend leukemia virus
T. J. BUSCHER, C. FRANTSI, and K. F. GREGORY 315

Griffiths, D. A.
The fine structure of *Verticillium dahliae* Kleb. colonizing cellophane
D. A. GRIFFITHS 79

The development of lignitubers in roots after infection by *Verticillium dahliae* Kleb.
D. A. GRIFFITHS 441

The fine structure of resting mycelium of *Verticillium albo-atrum* R. & B.
D. A. GRIFFITHS and W. P. CAMPBELL 1533

Grodums, E. I.
Ultrastructural evidence of immunological reactions during experimental coxsackievirus B-3 infection in the hibernating squirrel
E. I. GRODUMS and G. DEMPSTER 359

Grussendorf, O. W.
A biodegradability test for insecticides
HARVEST HALVORSON, M. ISHAQUE, J. SOLOMON, and O. W. GRUSSENDORF 585

Gundersen, K.
Regenerative functions and microbial ecology of coral reefs. I. Assays for microbial population
L. H. DISALVO and K. GUNDERSEN 1081

Gupta, R. K.
Lysis of zoopathogenic fungi by Streptomycetes
DEXTER H. HOWARD and RISHAB K. GUPTA 521

Hall, R.
Effect of carbon-nitrogen ratios on production of perithecia by *Sordaria fimicola*
ROBERT HALL 132

Halvorson, H.
A biodegradability test for insecticides
HARVEST HALVORSON, M. ISHAQUE, J. SOLOMON, and O. W. GRUSSENDORF 585

Hankin, L.
Inducible pectate lyase synthesis and phytopathogenicity of *Pseudomonas fluorescens*
MILTON ZUCKER and LESTER HANKIN 1313

Hanson, R. P.
Properties of a *Chlamydia psittaci* isolated from muskrats and snowshoe hares in Canada
J. SPALATIN, J. O. IVERSEN, and R. P. HANSON 935

Haque, R. U.
Identification of staphylococcal delta-hemolysin
RICHARD A. MURPHY and RIAZ-UL HAQUE 737

Harman, G. E.
Morphactin influences sexual and asexual reproduction in fungi
G. E. HARMAN, A. A. KHAN, and R. E. DRURY 1477

Harper, D. B.
The metabolism of *p*-fluorophenylacetic acid by a *Pseudomonas* sp. I. Isolation and identification of intermediates in degradation
D. B. HARPER and E. R. BLAKLEY 635

The metabolism of *p*-fluorophenylacetic acid by a *Pseudomonas* sp. II. The degradative pathway
D. B. HARPER and E. R. BLAKLEY 645

The metabolism of *p*-fluorobenzoic acid by a *Pseudomonas* sp.
D. B. HARPER and E. R. BLAKLEY 1015

Hartman, P. A.
Immunization with autogenous rumen enterococci
PAUL A. HARTMAN and NORMAN L. JACOBSON 1339

Haskins, R. H.
Metabolites from a *Chrysosporium* species
G. P. Slater, R. H. Haskins, and L. R. Hogge 1576

Hathaway, A. E.
Rapid detection of Australia/SH antigen and antibody by a simple and sensitive technique of immunoelectron-microscopy
A. E. Kelen, A. E. Hathaway, and D. A. McLeod 993

Hauschild, A. H. W.
Immunization of sheep against experimental *Clostridium perfringens* type A enteritis
L. Niilo, A. H. W. Hauschild, and W. J. Dorward 391

The role of enterotoxin in *Clostridium perfringens* type A enteritis
A. H. W. Hauschild, L. Niilo, and W. J. Dorward 987

Emesis and diarrhea induced by enterotoxin of *Clostridium perfringens* type A in monkeys
A. H. W. Hauschild, M. J. Walcroft, and W. Campbell 1141

Purification and characteristics of the enterotoxin of *Clostridium perfringens* type A
A. H. W. Hauschild and R. Hilsheimer 1425

Rapid detection of *Clostridium perfringens* enterotoxin by a modified ligated intestinal loop technique in rabbits
A. H. W. Hauschild, R. Hilsheimer, and C. G. Rogers 1475

Hendricks, A.
Increase in glyoxylate shunt enzymes during cellular morphogenesis in *Myxococcus xanthus*
J. Bland, Wu-Kuang Yeh, D. White, and A. Hendricks 209

Hendricks, C. W.
Enteric bacterial metabolism of stream sediment eluates
Charles W. Hendricks 551

Henigman, J. F.
Seawater salts – hydrostatic pressure effects upon cell division of several bacteria
Lawrence J. Albright and John F. Henigman 1246

Hesseltine, C. W.
Germination and outgrowth of *Bacillus thuringiensis* and *Bacillus alvei* spores viewed by scanning electron and phase-contrast microscopy
Grant St. Julian, Lee A. Bulla, Jr., and Clifford W. Hesseltine 373

Tremorgenic toxins from penicillia. II. A new tremorgenic toxin, tremortin B, from *Penicillium palitans*
C. T. Hou, A. Ciegler, and C. W. Hesseltine 599

Selection and characterization of a pleomorphic form and an L form of *Bacillus pumilus* NRRL B-3275
H. R. Burmeister and C. W. Hesseltine 1057

Hewitt, R. R.
Effect of 5-bromouracil on the growth of a thymine auxotroph of *Escherichia coli* K-12
Roosevelt J. Jones and Roger R. Hewitt 87

Hilsheimer, R.
Purification and characteristics of the enterotoxin of *Clostridium perfringens* type A
A. H. W. Hauschild and R. Hilsheimer 1425

Rapid detection of *Clostridium perfringens* enterotoxin by a modified ligated intestinal loop technique in rabbits
A. H. W. Hauschild, R. Hilsheimer, and C. G. Rogers 1475

Hinton, N. A.
Studies on lipopolysaccharides of *Proteus*
B. A. Dmitriev, N. A. Hinton, R. W. Lowe, and J. K. N. Jones 1385

Hoeniger, J. F. M.
Structural changes in cells of *Clostridium perfringens* infected with a short-tailed bacteriophage
David E. Bradley and Judith F. M. Hoeniger 397

Structural changes in cells of *Clostridium sporogenes* infected with a long-tailed bacteriophage
Judith F. M. Hoeniger and David E. Bradley 1567

Hogge, L. R.
Metabolites from a *Chrysosporium* species
G. P. Slater, R. H. Haskins, and L. R. Hogge 1576

Hollinger, E.
Disruption of *Bordetella pertussis* in the Ribi Cell Fractionator. 1. Effect of different pressures
E. Hollinger and A. C. Wardlaw 1169

Disruption of *Bordetella pertussis* in the Ribi Cell Fractionator. 2. Effect of different suspending media
E. Hollinger and A. C. Wardlaw 1195

Hollis, D. G.
Cellular fatty acids of nonpathogenic *Neisseria*
Mary Ann Lambert, D. G. Hollis, C. W. Moss, R. E. Weaver, and M. L. Thomas 1491

Hopkins, D. L.
Induction of adventitious roots by culture filtrates of the hairy root bacterium, *Agrobacterium rhizogenes*
D. L. Hopkins and R. D. Durbin 1409

Hou, C. T.
Tremorgenic toxins from penicillia. II. A new tremorgenic toxin, tremortin B, from *Penicillium palitans*
C. T. Hou, A. Ciegler, and C. W. Hesseltine 599

Howard, D. H.
Lysis of zoopathogenic fungi by Streptomycetes
Dexter H. Howard and Rishab K. Gupta 521

Hsu, C. Y.
Purification of epidermidins, new antibiotics from staphylococci
CHUN-YANG HSU and G. M. WISEMAN 1223

Hudson, J. B.
Properties of polyoma virus transformed cells. I. Oncogenic properties
LORNE A. BABIUK and JAMES B. HUDSON 747

The recovery of polyoma virus from infected mouse cells: relevance to virus purification
LARRY M. KOHSE, LORRAINE MCGRATH, and JAMES B. HUDSON 775

Hughes, H. G.
Stabilization of poliovirus to ^{32}P decay
HOWARD G. HUGHES and DANIEL R. TERSHAK 725

Hurst, A.
Preparation of a highly active form of nisin from *Streptococcus lactis*
F. J. BAILEY and A. HURST 61

Observations on the conversion of an inactive precursor protein to the antibiotic nisin
A. HURST and G. M. PATERSON 1379

Hurst, S. K.
Germ-tube production by *Candida albicans* in minimal liquid culture media
D. N. MARDON, S. K. HURST, and E. BALISH 851

Hussey, G. G.
Inhibition of the growth of *Helminthosporium carbonum* by L-cysteine
EDWARD H. ALLEN and GRISCELDA G. HUSSEY 101

Ingram, J. M.
Localization of L-asparaginase in *Pseudomonas aeruginosa*
D. F. DAY and J. M. INGRAM 1025

Inniss, W. E.
Utilization of glyoxylate by acetate-grown *Bacillus megaterium* KM
A. DONAWA and W. E. INNISS 1002

Protein synthesis by cell-free extracts of *Proteus vulgaris*
K. L. BACKLER and W. E. INNISS 1545

Ireland, R.
Phylogenetic significances of the photoreactivable sectors of species of *Hansenula*
A. SARACHEK and ROSALEE IRELAND 1217

Ishaque, M.
A biodegradability test for insecticides
HARVEST HALVORSON, M. ISHAQUE, J. SOLOMON, and O. W. GRUSSENDORF 585

Iversen, J. O.
Properties of a *Chlamydia psittaci* isolated from muskrats and snowshoe hares in Canada
J. SPALATIN, J. O. IVERSEN, and R. P. HANSON 935

Iyer, R. V.
Stable coexistence of R*fi*$^-$ factors in *Escherichia coli*
HAJRA KHATOON and RAJUL V. IYER 669

Jacobson, N. L.
Immunization with autogenous rumen enterococci
PAUL A. HARTMAN and NORMAN L. JACOBSON 1339

Janki, R. M.
Mitochondriogenesis: a comparative study of some commonly used strains of *Saccharomyces cerevisiae*
A. J. S. BALL, R. M. JANKI, and E. RENO TUSTANOFF 1125

Johnson, B. F.
Flocculation in a fission yeast: an initial step in the conjugation process
G. B. CALLEJA and B. F. JOHNSON 1175

Johnson, C. M.
Immunodiffusion studies on the myxoviruses. III. Identification of the structural antigens of Myxovirus influenza A/PR8
C. MARGARET JOHNSON and JOHN C. N. WESTWOOD 915

The production and assay of Myxovirus influenza A/PR8 in suspension cultures of a continuous cell line of human origin (G2)
C. MARGARET JOHNSON and JOHN C. N. WESTWOOD 1335

Johri, B. N.
The physiology of production of the antibiotic cyathin by *Cyathus helenae*
B. N. JOHRI and H. J. BRODIE 1243

Cyathin, a new antibiotic complex produced by *Cyathus helenae*
A. D. ALLBUTT, W. A. AYER, H. J. BRODIE, B. N. JOHRI, and H. TAUBE 1401

Jones, G. A.
Identification of products produced by the anaerobic degradation of naringin by *Butyrivibrio* sp. C_3
K.-J. CHENG, H. G. KRISHNAMURTY, G. A. JONES, and F. J. SIMPSON 129

Jones, J. K. N.
Studies on lipopolysaccharides of *Proteus*
B. A. DMITRIEV, N. A. HINTON, R. W. LOWE, and J. K. N. JONES 1385

Jones, R. J.
Effect of 5-bromouracil on the growth of a thymine auxotroph of *Escherichia coli* K-12
ROOSEVELT J. JONES and ROGER R. HEWITT 87

Jordan, D. C.
Cation content and cation-exchange capacity of intact cells and cell envelopes of viomycin-sensitive and -resistant strains of *Rhizobium melliloti*
K. K.-Y. YU and D. C. JORDAN 1283

Joseph, H. A.
Bacterial degradation of nitrilotriacetic acid (NTA)
D. D. FOCHT and H. A. JOSEPH 1553

Kane, J.
The differentiation of *Trichophyton rubrum* and *T. mentagrophytes* by use of Christensen's urea broth
JULIUS KANE and J. B. FISCHER 911

Kaneda, T.
Factors affecting the relative ratio of fatty acids in *Bacillus cereus*
TOSHI KANEDA 269

Kaneko, E.
Bacterial flora of phyto- and zoo-plankton in the inshore water of Japan
U. SIMIDU, K. ASHINO, and E. KANEKO 1157

Kapetanovic, I.
The morphology of induced wall-defective variants of *Streptococcus faecalis* as studied by light and electron microscopy
R. V. MARRARO, R. M. PFISTER, M. S. RHEINS, and I. KAPETANOVIC 365

Kapoor, M.
Reversible inactivation and dissociation of glutamine synthetase of *Neurospora crassa* by urea
G. W. WARD and M. KAPOOR 451

Keenan, D.
Acid injury of *Escherichia coli*
L. A. ROTH and D. KEENAN 1005

Kelen, A. E.
Rapid detection of Australia/SH antigen and antibody by a simple and sensitive technique of immunoelectron-microscopy
A. E. KELEN, A. E. HATHAWAY, and D. A. MCLEOD 993

Kelln, R. A.
Isolation and properties of a bacteriophage lytic for a wide range of pseudomonads
R. A. KELLN and R. A. J. WARREN 677

Kellogg, D. S.
Analysis by gas chromatography of fatty acids found in whole cultural extracts of *Neisseria* species
J. B. BROOKS, D. S. KELLOGG, L. THACKER, and E. M. TURNER 531

Kemp, C. L.
Ultraviolet radiation studies on the colonial alga, *Eudorina elegans*
C. L. KEMP and J. W. WENTWORTH 1417

Kennedy, D. A.
Serological cross-reactivity within the picornaviruses as studied by electron microscopy
R. K. CHAUDHARY, D. A. KENNEDY, and J. C. N. WESTWOOD 477

Kennedy, R. S.
Effects of glutamic acid on sporulation of *Bacillus cereus* and on spore properties
R. S. KENNEDY, F. J. MALVEAUX, and J. J. COONEY 511

Kenny, C. P.
A tissue culture technique for the assay of antibacterial immune sera
B. B. DIENA, R. WALLACE, C. P. KENNY, and L. GREENBERG 13

Kerbel, R. S.
Further studies of competition of antigens. I. Variation in immunosuppression induced by alterations of dosage, route of injection, nature of antigen, and immunological status of host
D. EIDINGER, H. F. PROSS, R. S. KERBEL, M. G. BAINES, A. ACKERMAN, and S. A. KHAN 803

Khan, A. A.
Morphactin influences sexual and asexual reproduction in fungi
G. E. HARMAN, A. A. KHAN, and R. E. DRURY 1477

Khan, S. A.
Further studies of competition of antigens. I. Variation in immunosuppression induced by alterations of dosage, route of injection, nature of antigen, and immunological status of host
D. EIDINGER, H. F. PROSS, R. S. KERBEL, M. G. BAINES, A. ACKERMAN, and S. A. KHAN 803

Khatoon, H.
Stable coexistence of R*fi*$^-$ factors in *Escherichia coli*
HAJRA KHATOON and RAJUL V. IYER 669

Knowles, R.
Inhibition of growth of *Clostridium pasteurianum* by acetylene: implication for nitrogen fixation assay
R. BROUZES and R. KNOWLES 1483

Kohse, L. M.
The recovery of polyoma virus from infected mouse cells: relevance to virus purification
LARRY M. KOHSE, LORRAINE MCGRATH, and JAMES B. HUDSON 775

Konowalchuk, J.
A method for recovering enterovirus from infected samples by adsorption onto shaken suspended cells
JACK KONOWALCHUK and JOAN I. SPEIRS 1279

An evaluation of three agents for eluting adsorbed enterovirus from millipore membrane filters
JACK KONOWALCHUK and JOAN I. SPEIRS 1351

Kordová, N.
Electron microscopic studies of the rickettsia *Coxiella burneti*: entry, lysosomal response, and fate of rickettsial DNA in L-cells
PAUL R. BURTON, NONNA KORDOVÁ, and DAVID PARETSKY 143

Lysosomes in L cells infected with *Chlamydia psittaci* 6BC strain
NONNA KORDOVÁ, JOHN C. WILT, and MOHAMED SADIQ 955

Kouroupis, G. M.
Enhancement of vesicular stomatitis virus production by serum
G. M. KOUROUPIS and L. R. SABINA 1149

Krieg, N. R.
Flagellar activity in an aquatic bacterium
W. J. STRENGTH and N. R. KRIEG 1133

Krishnamurty, H. G.
Identification of products produced by the anaerobic degradation of naringin by *Butyrivibrio* sp. C_3
K.-J. CHENG, H. G. KRISHNAMURTY, G. A. JONES, and F. J. SIMPSON 129

Purification and properties of a phenol carboxylic acid acyl esterase from *Aspergillus flavus*
J. J. CHILD, T. OKA, F. J. SIMPSON, and H. G. KRISHNAMURTY 1455

Kulpa, C. F., Jr.
Properties of psychrophilic bacteriophage specific for *Micrococcus cryophilus*
CHARLES F. KULPA, JR. and R. H. OLSEN 157

Kushner, D. J.
Potassium binding, growth, and survival of an extremely halophilic bacterium
M. B. GOCHNAUER and D. J. KUSHNER 17

Salt tolerance of intertidal marine bacteria
M. P. FORSYTH, D. B. SHINDLER, M. B. GOCHNAUER, and D. J. KUSHNER 825

Kurz, W. G. W.
The Dome fermentor: a versatile unit suitable for batch, continuous, and synchronous cultivation of micro-organisms or tissue cells
P. S. S. DAWSON, W. G. W. KURZ, M. ANDERSON, and A. E. YORK 229

Kwapinski, J. B. G.
Immunochemistry of *Mycococcus* and its position within Actinomycetales
J. B. G. KWAPINSKI, A. F. B. CHENG, ALICE ALCASID, and JUDY DOWLER 1537

Lack, L.
The effect of quaternary ammonium derivatives of bile acids on the rate of swelling of *Pseudomonas aeruginosa* in solutions of sodium and potassium salts
FREDERICK BERNHEIM and LEON LACK 323

Laishley, E. J.
A ferredoxin-linked sulfite reductase from *Clostridium pasteurianum*
E. J. LAISHLEY, PO-MIN LIN, and H. D. PECK, JR. 889

Lambert, M. A.
Cellular fatty acids of nonpathogenic *Neisseria*
MARY ANN LAMBERT, D. G. HOLLIS, C. W. MOSS, R. E. WEAVER, and M. L. THOMAS 1491

Lange, W.
Enhancement of algal growth in Cyanophyta–bacteria systems by carbonaceous compounds
WILLY LANGE 303

Lawson, J. W.
A simple method for scanning electron microscopy of L-form colonies grown on agar
DAVID J. BIBEL and JOHN W. LAWSON 822

Leal, J. A.
The value of 21 amino acids as nitrogen sources for *Phytophthora cactorum* and *P. heveae*
J. A. LEAL, M. E. GALLEGLY, and V. G. LILLY 1319

Lechner, J. F.
Genetic and biochemical studies of the hexose monophosphate shunt in *Neurospora crassa*. I. The influence of genetic defects in the pathway on colonial morphology
KATHYRN E. FUSCALDO, JOHN F. LECHNER, and GEORGE BAZINET 783

Genetic and biochemical studies of the hexose monophosphate shunt in *Neurospora crassa*. II. Characterization of biochemical defects of the morphological mutants colonial 2 and colonial 3
JOHN F. LECHNER, KATHYRN E. FUSCALDO, and GEORGE BAZINET 789

Lesley, S. M.
Recovery of metabolic activity in *Escherichia coli* following limited exposure to myxin
S. M. LESLEY and R. M. BEHKI 1327

Lewis, R. G.
Bacteriocins of *Clostridium perfringens*. 2. Studies on mode of action
D. E. MAHONY, M. E. BUTLER, and R. G. LEWIS 1435

Lichtenstein, E. P.
Effect of nutritional factors on DDT-degradation by *Mucor alternans*
J. P. E. ANDERSON and E. P. LICHTENSTEIN 1291

Lillich, T. T.
The biosynthesis of aspartic acid, glutamic acid, and alanine in *Rhizobium japonicum*
THOMAS T. LILLICH and GERALD H. ELKAN 683

Lilly, V. G.
The value of 21 amino acids as nitrogen sources for *Phytophthora cactorum* and *P. heveae*
J. A. LEAL, M. E. GALLEGLY, and V. G. LILLY 1319

Lin, Po-Min
A ferredoxin-linked sulfite reductase from *Clostridium pasteurianum*
E. J. LAISHLEY, PO-MIN LIN, and H. D. PECK, JR. 889

Linderman, R. G.
Increased activity of soil microorganisms near sclerotia of *Sclerotium rolfsii* in soil
R. G. GILBERT and R. G. LINDERMAN 557

Lowe, R. W.
Studies on lipopolysaccharides of *Proteus*
B. A. DMITRIEV, N. A. HINTON, R. W. LOWE, and J. K. N. JONES 1385

McCammon, J. R.
Cutaneous skin test for delayed hypersensitivity in hamsters to viral induced tumor antigens
RICHARD G. OLSEN, JAMES R. MCCAMMON, JOSEPH WEBER, and DAVID S. YOHN 1145

McDonald, I. J.
Filamentous forms of *Streptococcus cremoris* and *Streptococcus lactis*. Observations on structure and susceptibility to lysis
I. J. MCDONALD 897

McDonald, W. C.
Initial temperature sensitivity of streptomycin-dependent and tryptophan transformants of *Bacillus subtilis*
W. C. MCDONALD 823

McGrath, L.
The recovery of polyoma virus from infected mouse cells: relevance to virus purification
LARRY M. KOHSE, LORRAINE MCGRATH, and JAMES B. HUDSON 775

McKeen, C. D.
An adaptation of a moist-chamber method for isolating and identifying *Verticillium* spp.
C. D. MCKEEN and H. J. THORPE 1139

McKeen, W. E.
Woronin bodies in *Erysiphe graminis* DC.
W. E. MCKEEN 1557

McLeod, D. A.
Rapid detection of Australia/SH antigen and antibody by a simple and sensitive technique of immunoelectron-microscopy
A. E. KELEN, A. E. HATHAWAY, and D. A. MCLEOD 993

MacLeod, R. A.
Nutritional requirements of some marine luminous bacteria
VINOD S. SRIVASTAVA and ROBERT A. MACLEOD 703

Evidence for the release at low salt concentration of a lipid–protein–carbohydrate complex from isolated envelopes and whole cells of a marine pseudomonad
F. L. A. BUCKMIRE and ROBERT A. MACLEOD 713

MacNeill, B. H.
The identification of strains of tobacco mosaic virus from tomato crops in Southern Ontario
J. T. FLETCHER and B. H. MACNEILL 123

Maguire, A.
Aureobasidium pullulans as a source of sucrase
ELWYN T. REESE and ANNE MAGUIRE 329

Mahony, D. E.
Bacteriocins of *Clostridium perfringens*. 1. Isolation and preliminary studies
D. E. MAHONY and M. E. BUTLER 1

Bacteriocins of *Clostridium perfringens*. 2. Studies on mode of action
D. E. MAHONY, M. E. BUTLER, and R. G. LEWIS 1435

Malik, V. S.
Metabolism of chloramphenicol by the producing organism. Some properties of chloramphenicol hydrolase
V. S. MALIK and L. C. VINING 1287

Maltman, J. R.
The action of hydrolytic enzymes and vapor rehydration on semidried cells of *Klebsiella pneumoniae*
J. R. MALTMAN and S. J. WEBB 1443

Malveaux, F. J.
Effects of glutamic acid on sporulation of *Bacillus cereus* and on spore properties
R. S. KENNEDY, F. J. MALVEAUX, and J. J. COONEY 511

Manocha, M. S.
Induction of phage-like particles in *Agrobacterium* by wounded host tissue
M. S. MANOCHA 819

Marchessault, V.
A field trial with live attenuated mumps virus vaccine: a serological study
E. ROSSIER, J. MEUNIER, F. BAKER, and V. MARCHESSAULT 929

Mardon, D. N.
Methionine biosynthesis in *Candida albicans*. I. S-Adenosyl-L-methionine (or S-methyl-L-methionine): homocysteine methyltransferase in cell-free extracts from yeast-like cells
D. N. MARDON and E. BALISH 795

Germ-tube production by *Candida albicans* in minimal liquid culture media
D. N. MARDON, S. K. HURST, and E. BALISH 851

Marraro, R. V.
The morphology of induced wall-defective variants of *Streptococcus faecalis* as studied by light and electron microscopy
R. V. MARRARO, R. M. PFISTER, M. S. RHEINS, and I. KAPETANOVIC 365

Marshall, K. C.
Selective sorption of bacteria from seawater
K. C. MARSHALL, RUBY STOUT,
and RALPH MITCHELL 1413

Marston, J. H.
Haemophilus vaginalis 594, a Gram-negative organism?
B. SUE CRISWELL, JUDITH H. MARSTON,
WAYNE A. STENBACK, S. H. BLACK,
and HERMAN L. GARDNER 865

Martin, S. M.
Isolation and preliminary characterization of an extracellular protease of *Cytophaga* sp.
J. CHRISTISON and S. M. MARTIN 1207

Martineau, B.
Ségrégation indépendante des propriétés restrictives des facteurs R isolés au Canada en 1956–1957
S. SONEA, A. SASĂRMĂN, M. SURDEANU
et B. MARTINEAU 813

Marusyk, R. G.
Characterization of a canine adenovirus hemagglutinin
R. G. MARUSYK and T. YAMAMOTO 151

Association of deoxyribonuclease-sensitive material with adenovirus penton aggregates after treatment of infected cell cultures with sodium deoxycholate
R. G. MARUSYK and E. NORRBY 1009

Immunological relationships between capsid components of adenoviruses of different host cell species origin
E. NORRBY, R. G. MARUSYK, and G. WADELL 1227

Mason, B. D.
Dielectrophoretic separation of living cells
B. D. MASON and P. M. TOWNSLEY 879

Mason, M. A.
The growth and morphological changes of the genus *Bordetella* in rotated fluid glycine cultures
M. AILEEN MASON 665

Mathieu, L. G.
A comparison of use of carbohydrate, cell structure, and toxin formation in naturally occurring and thymine-requiring *Staphylococcus aureus* strains
J. DE REPENTIGNY and L. G. MATHIEU 1343

Mathre, D. E.
Mode of action of oxathiin systemic fungicides. IV. Effect of carboxin on solute leakage from hyphae of *Rhizoctonia solani*
O. D. SHIVELY and D. E. MATHRE 1465

Matsumoto, S.
The temperature dependence of mortality rate in starved yeast cells
SHINJI MATSUMOTO 179

Mattingly, S. J.
The effect of temperature on lysis of cells and cell walls of *Bacillus psychrophilus*
STEPHEN J. MATTINGLY and GARY K. BEST 1161

Medzon, E. L.
Substitution of 4-(2-hydroxyethyl)-1-piperazineethane sulfonic acid (HEPES) for bicarbonate in protein-free animal cell culture medium: application to vaccinia virus quantitation and fluorogenic acetylesterase assay in living LM cells
EDWARD L. MEDZON and ADOLPH GEDIES 651

Meiler, D.
The effect of cochliodinol, a metabolite of *Chaetomium cochliodes*, on the respiration of microspores of *Fusarium oxysporum*
D. MEILER and A. TAYLOR 83

Melhuish, J. H.
Effect of dimethyl sulfoxide on the sclerotia of *Sclerotium rolfsii*
J. H. MELHUISH, JR., and G. A. BEAN 429

Mencher, J. R.
A disulfide reductase in spores of *Bacillus cereus* T
LEROY C. BLANKENSHIP and J. R. MENCHER 1273

Menezes, J.
The fluorescent staining of a mycobacteriophage (C2) nucleic acid
JOSE MENEZES 171

Meunier, J.
A field trial with live attenuated mumps virus vaccine: a serological study
E. ROSSIER, J. MEUNIER, F. BAKER,
and V. MARCHESSAULT 929

Meyer, D. M.
Differentiation of human mycoplasma using gas chromatography
DONNA M. MEYER and DONNA J. BLAZEVIC 297

Miller III, A.
Deoxyribonucleic acid homology in the genus *Lactobacillus*
A. MILLER III, W. E. SANDINE, and P. R. ELLIKER 625

Miller, J. J.
Observations on acid-fastness and respiration of germinating yeast ascospores
J. L. SEIGEL and J. J. MILLER 837

Miller, M. A.
Genetic determinant(s) for D-cycloserine resistance in *Staphylococcus aureus*
MARCIA A. MILLER and MELVIN S. RHEINS 1267

Mills, C. (Sister)
Degradation of rutin by *Aspergillus flavus*. Purification of the dioxygenase, quercetinase
T. OKA, F. J. SIMPSON, J. J. CHILD,
and SISTER CECILY MILLS 111

Mirocha, C. J.
Growth of fungi on an inorganic medium
C. J. MIROCHA and J. E. DEVAY 1373

Mitchell, R.
Selective sorption of bacteria from seawater
K. C. MARSHALL, RUBY STOUT,
and RALPH MITCHELL 1413

Moens, P. B.
Fine structure of ascospore development in the yeast *Saccharomyces cerevisiae*
PETER B. MOENS 507

Moraine, R. A.
Growth of *Xanthomonas campestris* is not simply nutrient-limited
REUVEN A. MORAINE and PETER ROGOVIN 1473

Morrall, R. A. A.
Yeasts of the Matador soils of Saskatchewan and their ability to use flavonoids
J. F. T. SPENCER, L. BABIUK,
and R. A. A. MORRALL 1248

Moss, C. W.
Cellular fatty acids of nonpathogenic *Neisseria*
MARY ANN LAMBERT, D. G. HOLLIS, C. W. MOSS,
R. E. WEAVER, and M. L. THOMAS 1491

Murphy, R. A.
Identification of staphylococcal delta-hemolysin
RICHARD A. MURPHY and RIAZ-UL HAQUE 737

Naylor, H. B.
Control of serine biosynthesis in *Micrococcus lysodeikticus*: inhibition of phosphoglyceric acid dehydrogenase
J. D. NELSON, JR. and H. B. NAYLOR 25

The synthesis of L-serine by *Micrococcus lysodeikticus*
J. D. NELSON, JR. and H. B. NAYLOR 73

Neal, Jr., J. L.
A simple method for enumeration of antibiotic-producing microorganisms in the rhizosphere
J. L. NEAL, JR. 1143

Nelson, J. D.
Control of serine biosynthesis in *Micrococcus lysodeikticus*: inhibition of phosphoglyceric acid dehydrogenase
J. D. NELSON, JR. and H. B. NAYLOR 25

The synthesis of L-serine by *Micrococcus lysodeikticus*
J. D. NELSON, JR. and H. B. NAYLOR 73

Neudoerffer, T. S.
Characterization of a micrococcus which enhances the cellulolytic activity of *Trichurus cylindricus*
R. E. SMITH and T. S. NEUDOERFFER 31

Niilo, L.
Immunization of sheep against experimental *Clostridium perfringens* type A enteritis
L. NIILO, A. H. W. HAUSCHILD,
and W. J. DORWARD 391

The role of enterotoxin in *Clostridium perfringens* type A enteritis
A. H. W. HAUSCHILD, L. NIILO,
and W. J. DORWARD 987

Norrby, E.
Association of deoxyribonuclease-sensitive material with adenovirus penton aggregates after treatment of infected cell cultures with sodium deoxycholate
R. G. MARUSYK and E. NORRBY 1009

Immunological relationships between capsid components of adenoviruses of different host cell species origin
E. NORRBY, R. G. MARUSYK, and G. WADELL 1227

O'Dor, J.
Chelating agents and the growth of *Micrococcus lysodeikticus*
B. L. WALSH, JANET O'DOR, and R. A. J. WARREN 593

Oka, T.
Degradation of rutin by *Aspergillus flavus*. Purification of the dioxygenase, quercetinase
T. OKA, F. J. SIMPSON, J. J. CHILD,
and SISTER CECILY MILLS 111

Purification and properties of a phenol carboxylic acid acyl esterase from *Aspergillus flavus*
J. J. CHILD, T. OKA, F. J. SIMPSON,
and H. G. KRISHNAMURTY 1455

Okeren, I.
MICSYS, an information system using the digital computer for culture collections
F. J. SIMPSON, I. OKEREN, and G. PEARDON 403

Olsen, R. G.
Cutaneous skin test for delayed hypersensitivity in hamsters to viral induced tumor antigens
RICHARD G. OLSEN, JAMES R. MCCAMMON,
JOSEPH WEBER, and DAVID S. YOHN 1145

Olsen, R. H.
Properties of psychrophilic bacteriophage specific for *Micrococcus cryophilus*
CHARLES F. KULPA, JR. and R. H. OLSEN 157

Ordal, Z. J.
Effect of thermal injury on the TCA cycle enzymes of *Staphylococcus aureus* MF 31 and *Salmonella typhimurium* 7136
RICHARD I. TOMLINS, MERLE D. PIERSON,
and Z. JOHN ORDAL 759

Page, O. T.
Differential induction of pectolytic enzymes of *Fusarium roseum* (Lk.) emend. Snyder and Hansen
A. F. PERLEY and O. T. PAGE 415

Pakula, R.
Streptococci deficient in genetic transformation
R. PAKULA, L. R. SPENCER, and P. A. GOLDSTEIN 1251

Paretsky, D.
Electron microscopic studies of the rickettsia *Coxiella burneti*: entry, lysosomal response, and fate of rickettsial DNA in L-cells
PAUL R. BURTON, NONNA KORDOVÁ,
and DAVID PARETSKY 143

Parkinson, D.
Growth and activity of *Penicillium decumbens* under different environmental conditions in glass microbead media
H. I. Taylor and D. Parkinson 967

The influence of soil moisture tension on the fungal population of a pinewood soil
M. Shameemullah, D. Parkinson, and A. Burges 975

Paterson, G. M.
Observations on the conversion of an inactive precursor protein to the antibiotic nisin
A. Hurst and G. M. Paterson 1379

Pathak, M. D.
Development of a diazinon-degrading bacterium in paddy water after repeated applications of diazinon
N. Sethunathan and M. D. Pathak 699

Pattee, P. A.
Lysis of *Bacillus subtilis*, *Escherichia coli*, and *Staphylococcus aureus* by phenethyl alcohol
J. Weaver Zyskind and P. A. Pattee 565

Paul, E. A.
The acetylene reduction assay for measuring nitrogen fixation in waterlogged soil
W. A. Rice and E. A. Paul 1049

Paulton, R. J. L.
The synchronization of *Bacillus subtilis* by the relaxation of a division control system
R. J. L. Paulton 119

Payment, P.
Ultrastructure du bactériophage øRE agissant dans certaines conditions comme une staphylococcine
R. Dobardzic, P. Payment et S. Sonea 847

Peardon, G.
MICSYS, an information system using the digital computer for culture collections
F. J. Simpson, I. Okeren, and G. Peardon 403

Peck, H. D.
A ferredoxin-linked sulfite reductase from *Clostridium pasteurianum*
E. J. Laishley, Po-Min Lin, and H. D. Peck, Jr. 889

Perley, A. F.
Differential induction of pectolytic enzymes of *Fusarium roseum* (Lk.) emend. Snyder and Hansen
A. F. Perley and O. T. Page 415

Perry, J. J.
Effect of substrate on the lipids of the hydrocarbon-utilizing *Mycobacterium vaccae*
J. Robie Vestal and J. J. Perry 445

Peters, W. J.
The regulation of phenolic acid synthesis in *Bacillus subtilis*
B. L. Walsh, W. J. Peters, and R. A. J. Warren 53

Pfister, R. M.
The morphology of induced wall-defective variants of *Streptococcus faecalis* as studied by light and electron microscopy
R. V. Marraro, R. M. Pfister, M. S. Rheins, and I. Kapetanovic 365

Phillips, K. L.
Alternate methods of nutrient dosing in continuous phased culture
P. S. S. Dawson and K. L. Phillips 435

Pierson, M. D.
Effect of thermal injury on the TCA cycle enzymes of *Staphylococcus aureus* MF 31 and *Salmonella typhimurium* 7136
Richard I. Tomlins, Merle D. Pierson, and Z. John Ordal 759

Polley, J. R.
Comparison of herpes simplex antigens prepared from various tissues
J. R. Polley and T. S. Webb 821

Previte, J. J.
Effects of radiation pasteurization on *Salmonella*. II. Influence of repeated radiation-growth cycles on virulence and resistance to radiation and antibiotics
Joseph J. Previte, Yinette Chang, W. Scrutchfield, and H. M. El-Bisi 105

Effects of radiation pasteurization on *Salmonella*. III. Radiation lethality and the frequency of mutation to antibiotic resistance
Joseph J. Previte, Y. Chang, and H. M. El-Bisi 385

Pross, H. F.
Further studies of competition of antigens. I. Variation in immunosuppression induced by alterations of dosage, route of injection, nature of antigen, and immunological status of host
D. Eidinger, H. F. Pross, R. S. Kerbel, M. G. Baines, A. Ackerman, and S. A. Khan 803

Provost, P. J.
Comparison of intranasal and parenteral immunization routes for influenza in mice
P. J. Provost, G. C. deMello, and P. J. Vasington 1119

Purkayastha, V.
A comparison of the electrophoretic properties of dehydrogenases from *Arthrobacter*, *Agrobacterium*, and *Rhizobium*
G. W. Skyring, J. W. Rouatt, and Vesna Purkayastha 961

Quadling, C.
Soil bacteria: principal component analysis of physiological descriptions of some named cultures of *Agrobacterium*, *Arthrobacter*, and *Rhizobium*
G. W. Skyring, C. Quadling, and J. W. Rouatt 1299

Rank, G. H.
The genetic control of the two types of mannan produced by *Saccharomyces cerevisiae*
J. F. T. Spencer, P. A. J. Gorin, and G. H. Rank 1451

Reese, E. T.
Aureobasidium pullulans as a source of sucrase
Elwyn T. Reese and Anne Maguire 329

Rheins, M. S.
The morphology of induced wall-defective variants of *Streptococcus faecalis* as studied by light and electron microscopy
R. V. Marraro, R. M. Pfister, M. S. Rheins, and I. Kapetanovic 365

Therapeutic effects of a series of non-viral interferon inducers on a viral-induced leukemia
M. S. Rheins, A. D. Barker, and H. E. Wilson 1259

Genetic determinant(s) for D-cycloserine resistance in *Staphylococcus aureus*
Marcia A. Miller and Melvin S. Rheins 1267

Rhodes, R. A.
Physiology of sporeforming bacteria associated with insects. III. Radiorespirometry of pyruvate, acetate, succinate, and glutamate oxidation
Lee A. Bulla, Jr., Grant St. Julian, and Robert A. Rhodes 1073

Rice, W. A.
The acetylene reduction assay for measuring nitrogen fixation in waterlogged soil
W. A. Rice and E. A. Paul 1049

Richard, C.
Sur l'activité antibiotique de l'*Armillaria mellea*
Claude Richard 1395

Robinson, J.
Changes in the permeability of *Escherichia coli* during parasitization by *Bdellovibrio bacteriovorus*
S. F. Crothers and J. Robinson 689

Rogers, C. G.
Rapid detection of *Clostridium perfringens* enterotoxin by a modified ligated intestinal loop technique in rabbits
A. H. W. Hauschild, R. Hilsheimer, and C. G. Rogers 1475

Rogovin, P.
Growth of *Xanthomonas campestris* is not simply nutrient-limited
Reuven A. Moraine and Peter Rogovin 1473

Rossier, E.
A field trial with live attenuated mumps virus vaccine: a serological study
E. Rossier, J. Meunier, F. Baker, and V. Marchessault 929

Roth, I. L.
Ultrastructure of the cell wall and the mechanism of cellular division of a Gram-variable coccus
H. E. Gilleland, Jr., I. L. Roth, and R. G. Eagon 421

Roth, L. A.
Acid injury of *Escherichia coli*
L. A. Roth and D. Keenan 1005

Rouatt, J. W.
A comparison of the electrophoretic properties of dehydrogenases from *Arthrobacter*, *Agrobacterium*, and *Rhizobium*
G. W. Skyring. J. W. Rouatt, and Vesna Purkayastha 961

Soil bacteria: principal component analysis of physiological descriptions of some named cultures of *Agrobacterium*, *Arthrobacter*, and *Rhizobium*
G. W. Skyring, C. Quadling, and J. W. Rouatt 1299

Rozee, K. R.
The intracellular development of vaccinia virus as observed in freeze-etched preparations
K. B. Easterbrook and K. R. Rozee 753

Sabina, L. R.
Enhancement of vesicular stomatitis virus production by serum
G. M. Kouroupis and L. R. Sabina 1149

Sadiq, M.
Lysosomes in L cells infected with *Chlamydia psittaci* 6BC strain
Nonna Kordová, John C. Wilt, and Mohamed Sadiq 955

St. Julian, G.
Germination and outgrowth of *Bacillus thuringiensis* and *Bacillus alvei* spores viewed by scanning electron and phase-contrast microscopy
Grant St. Julian, Lee A. Bulla, Jr., and Clifford W. Hesseltine 373

Physiology of sporeforming bacteria associated with insects. III. Radiorespirometry of pyruvate, acetate, succinate, and glutamate oxidation
Lee A. Bulla, Jr., Grant St. Julian, and Robert A. Rhodes 1073

San Clemente, C. L.
The effect of two herbicides (CIPC and eptam) on oxidative phosphorylation by *Nitrobacter agilis*
C. L. Winely and C. L. San Clemente 47

Sandine, W. E.
Deoxyribonucleic acid homology in the genus *Lactobacillus*
A. Miller III, W. E. Sandine, and P. R. Elliker 625

Lipids of antibiotic-sensitive and -resistant strains of *Pseudomonas aeruginosa*
E. A. Anderes, W. E. Sandine, and P. R. Elliker 1357

Sarachek, A.
Phylogenetic significances of the photoreactivable sectors of species of *Hansenula*
A. Sarachek and Rosalee Ireland 1217

Säsärman, A.
Ségrégation indépendante des propriétés restrictives des facteurs R isolés au Canada en 1956–1957
S. Sonea, A. Säsärman, M. Surdeanu, et B. Martineau 813

Sayed, H.
Purification and properties of a chlamydial hemagglutinogen
H. Sayed and J. C. Wilt 1509

Scrutchfield, W.
Effects of radiation pasteurization on *Salmonella*. II. Influence of repeated radiation-growth cycles on virulence and resistance to radiation and antibiotics
Joseph J. Previte, Yinette Chang, W. Scrutchfield, and H. M. El-Bisi 105

Seigel, J. L.
Observations on acid-fastness and respiration of germinating yeast ascospores
J. L. Seigel and J. J. Miller 837

Selim, M. S. N. E. D.
Search for antagonistic Actinomycetae in Libyan soils
Mostafa Sabry Nour El Dein Selim 731

Sethunathan, N.
Development of a diazinon-degrading bacterium in paddy water after repeated applications of diazinon
N. Sethunathan and M. D. Pathak 699

Shahrabadi, M. S.
Enzyme cytochemistry and autoradiography of adenovirus-infected cells as determined with the electron microscope
T. Yamamoto and M. S. Shahrabadi 249

Shameemullah, M.
The influence of soil moisture tension on the fungal population of a pinewood soil
M. Shameemullah, D. Parkinson, and A. Burges 975

Shindler, D. B.
Salt tolerance of intertidal marine bacteria
M. P. Forsyth, D. B. Shindler, M. B. Gochnauer, and D. J. Kushner 825

Shively, O. D.
Mode of action of oxathiin systemic fungicides. IV. Effect of carboxin on solute leakage from hyphae of *Rhizoctonia solani*
O. D. Shively and D. E. Mathre 1465

Silvey, J. K. G.
The effect of carbon monoxide inhibition on the growth of an aquatic streptomycete
Donald E. Francisco and J. K. G. Silvey 347

Simard, R. E.
Yeasts from the St. Lawrence River
R. E. Simard and A. C. Blackwood 197

Ecological studies on yeasts in the St. Lawrence River
R. E. Simard and A. C. Blackwood 353

Simidu, U.
Bacterial flora of phyto- and zoo-plankton in the inshore water of Japan
U. Simidu, K. Ashino, and E. Kaneko 1157

Simpson, F. J.
Degradation of rutin by *Aspergillus flavus*. Purification of the dioxygenase, quercetinase
T. Oka, F. J. Simpson, J. J. Child, and Sister Cecily Mills 111

Identification of products produced by the anaerobic degradation of naringin by *Butyrivibrio* sp. C_3
K.-J. Cheng, H. G. Krishnamurty, G. A. Jones, and F. J. Simpson 129

MICSYS, an information system using the digital computer for culture collections
F. J. Simpson, I. Okeren, and G. Peardon 403

Purification and properties of a phenol carboxylic acid acyl esterase from *Aspergillus flavus*
J. J. Child, T. Oka, F. J. Simpson, and H. G. Krishnamurty 1455

Singh, K.
An extracellular proteolytic enzyme from *Scopulariopsis brevicaulis*. 1. Purification and properties
Kartar Singh and Claude Vézina 1029

Sirisinha, S.
Antibodies to indigenous bacteria in human serum, secretions, and urine
Sittaya Sirisinha and Chinda Charupatana 1471

Skyring, G. W.
A comparison of the electrophoretic properties of dehydrogenases from *Arthrobacter*, *Agrobacterium*, and *Rhizobium*
G. W. Skyring, J. W. Rouatt, and Vesna Purkayastha 961

Soil bacteria: principal component analysis of physiological descriptions of some named cultures of *Agrobacterium*, *Arthrobacter*, and *Rhizobium*
G. W. Skyring, C. Quadling, and J. W. Rouatt 1299

Slater, G. P.
Metabolites from a *Chrysosporium* species
G. P. SLATER, R. H. HASKINS, and L. R. HOGGE 1576

Smith, R. E.
Characterization of a micrococcus which enhances the cellulolytic activity of *Trichurus cylindricus*
R. E. SMITH and T. S. NEUDOERFFER 31

Influence of growth of *Streptomyces fradiae* on pepsin-HCl digestibility and methionine content of feather meal
H. H. ELMAYERGI and R. E. SMITH 1067

Snyder, I. S.
Purification and kinetic studies of the hemolysin from *Escherichia coli*
PETER ZWADYK, JR. and I. S. SNYDER 741

Solomon, J.
A biodegradability test for insecticides
HARVEST HALVORSON, M. ISHAQUE, J. SOLOMON, and O. W. GRUSSENDORF 585

Sonea, S.
The effect of reticulocytosis on *Plasmodium vinckei* infection in white mice. Action of phenylhydrazine and of repeated bleedings
P. VIENS, J. L. CHEVALIER, S. SONEA, and M. YOELI 257

Ségrégation indépendante des propriétés restrictives des facteurs R isolés au Canada en 1956–1957
S. SONEA, A. SĂSĂRMAN, M. SURDEANU et B. MARTINEAU 813

Ultrastructure du bactériophage øRE agissant dans certaines conditions comme une staphylococcine
R. DOBARDZIC, P. PAYMENT et S. SONEA 847

Spalatin, J.
Properties of a *Chlamydia psittaci* isolated from muskrats and snowshoe hares in Canada
J. SPALATIN, J. O. IVERSEN, and R. P. HANSON 935

Speirs, J. I.
A method for recovering enterovirus from infected samples by adsorption onto shaken suspended cells
JACK KONOWALCHUK and JOAN I. SPEIRS 1279

An evaluation of three agents for eluting adsorbed enterovirus from millipore membrane filters
JACK KONOWALCHUK and JOAN I. SPEIRS 1351

Spencer, J. F. T.
Yeasts isolated from soils of citrus orchards and citrus waste disposal areas in California and Florida: flavonoid utilization
J. F. T. SPENCER and P. A. J. GORIN 871

Yeasts of the Matador soils of Saskatchewan and their ability to use flavonoids
J. F. T. SPENCER, L. BABIUK, and R. A. A. MORRALL 1248

The genetic control of the two types of mannan produced by *Saccharomyces cerevisiae*
J. F. T. SPENCER, P. A. J. GORIN, and G. H. RANK 1451

Spencer, L. R.
Streptococci deficient in genetic transformation
R. PAKULA, L. R. SPENCER, and P. A. GOLDSTEIN 1251

Sprott, G. D.
Formation of 3,3′,4,4′-tetrachloroazobenzene from 3,4-dichloroaniline in Ontario soils
G. D. SPROTT and C. T. CORKE 235

Srivastava, V. S.
Nutritional requirements of some marine luminous bacteria
VINOD S. SRIVASTAVA and ROBERT A. MACLEOD 703

Starratt, A. N.
The amino acid source of HCN in cultures of a psychrophilic basidiomycete
E. W. B. WARD, G. D. THORN, and A. N. STARRATT 1061

Stenback, W. A.
Haemophilus vaginalis 594, a Gram-negative organism?
B. SUE CRISWELL, JUDITH H. MARSTON, WAYNE A. STENBACK, S. H. BLACK, and HERMAN L. GARDNER 865

Stout, R.
Selective sorption of bacteria from seawater
K. C. MARSHALL, RUBY STOUT, and RALPH MITCHELL 1413

Strength, W. J.
Flagellar activity in an aquatic bacterium
W. J. STRENGTH and N. R. KRIEG 1133

Sumner, J. L.
The fatty acid composition of *Dactylaria* and *Scolecobasidium*
J. L. SUMNER and H. C. EVANS 7

Presence of sacs enveloping the liquid droplets on developing sclerotia of *Sclerotinia sclerotiorum* (Lib.) DeBary
N. COLOTELO, J. L. SUMNER, and W. S. VOEGELIN 300

Chemical studies on the exudate and developing sclerotia of *Sclerotinia sclerotiorum* (Lib.) DeBary
N. COLOTELO, J. L. SUMNER, and W. S. VOEGELIN 1189

Surdeanu, M.
Ségrégation indépendante des propriétés restrictives des facteurs R isolés au Canada en 1956–1957
S. SONEA, A. SĂSĂRMAN, M. SURDEANU et B. MARTINEAU 813

Taube, H.
Cyathin, a new antibiotic complex produced by *Cyathus helenae*
A. D. ALLBUTT, W. A. AYER, H. J. BRODIE, B. N. JOHRI, and H. TAUBE 1401

Taylor, A.
The effect of cochliodinol, a metabolite of *Chaetomium cochliodes*, on the respiration of microspores of *Fusarium oxysporum*
D. MEILER and A. TAYLOR 83

Taylor, H. I.
Growth and activity of *Penicillium decumbens* under different environmental conditions in glass microbead media
H. I. TAYLOR and D. PARKINSON 967

Tershak, D. R.
Stabilization of poliovirus to ^{32}P decay
HOWARD G. HUGHES and DANIEL R. TERSHAK 725

Thacker, L.
Analysis by gas chromatography of fatty acids found in whole cultural extracts of *Neisseria* species
J. B. BROOKS, D. S. KELLOGG, L. THACKER, and E. M. TURNER 531

Thatcher, F. S.
Hydroxyl apatite column chromatography of enterotoxin B
P.-C. CHANG, N. DICKIE, and F. S. THATCHER 296

Thomas, M. L.
Cellular fatty acids of nonpathogenic *Neisseria*
MARY ANN LAMBERT, D. G. HOLLIS, C. W. MOSS, R. E. WEAVER, and M. L. THOMAS 1491

Thomson, W. K.
The isolation of *Vibrio parahaemolyticus* and related halophilic bacteria from Canadian Atlantic shellfish
W. K. THOMSON and DIXIE A. TRENHOLM 545

Thorn, G. D.
The amino acid source of HCN in cultures of a psychrophilic basidiomycete
E. W. B. WARD, G. D. THORN, and A. N. STARRATT 1061

Thorpe, H. J.
An adaptation of a moist-chamber method for isolating and identifying *Verticillium* spp.
C. D. MCKEEN and H. J. THORPE 1139

Tomlins, R. I.
Effect of thermal injury on the TCA cycle enzymes of *Staphylococcus aureus* MF 31 and *Salmonella typhimurium* 7136
RICHARD I. TOMLINS, MERLE D. PIERSON, and Z. JOHN ORDAL 759

Townsley, P. M.
Dielectrophoretic separation of living cells
B. D. MASON and P. M. TOWNSLEY 879

Trenholm, D. A.
The isolation of *Vibrio parahaemolyticus* and related halophilic bacteria from Canadian Atlantic shellfish
W. K. THOMSON and DIXIE A. TRENHOLM 545

Tripathy, G. S.
The effect of mitomycin C on the pyocine typing patterns of hospital strains of *Pseudomonas aeruginosa*
G. S. TRIPATHY and P. CHADWICK 829

Tsernoglou, D.
Particle size, water-stable aggregates, and bacterial populations in lake sediments
D. TSERNOGLOU and E. H. ANTHONY 217

Turcotte, R.
Comparison between the antigenic components extracted from virulent and avirulent strains of mycobacteria
R. TURCOTTE and R. P. BOULANGER 95

Turner, E. M.
Analysis by gas chromatography of fatty acids found in whole cultural extracts of *Neisseria* species
J. B. BROOKS, D. S. KELLOGG, L. THACKER, and E. M. TURNER 531

Tustanoff, E. R.
Mitochondriogenesis: a comparative study of some commonly used strains of *Saccharomyces cerevisiae*
A. J. S. BALL, R. M. JANKI, and E. RENO TUSTANOFF 1125

Tyrrell, D.
The fatty acid composition of some Entomophthoraceae. III
D. TYRRELL 1115

Vasington, P. J.
Comparison of intranasal and parenteral immunization routes for influenza in mice
P. J. PROVOST, G. C. DEMELLO, and P. J. VASINGTON 1119

Vestal, J. R.
Effect of substrate on the lipids of the hydrocarbon-utilizing *Mycobacterium vaccae*
J. ROBIE VESTAL and J. J. PERRY 445

Vézina, C.
An extracellular proteolytic enzyme from *Scopulariopsis brevicaulis*. 1. Purification and properties
KARTAR SINGH and CLAUDE VÉZINA 1029

Vézina, R.
Incidence d'*Aeromonas hydrophila* chez la perche, *Perca flavescens* Mitchill
R. VÉZINA and R. DESROCHERS 1101

Vezinhet, F.
Caractéristiques d'un mutant homothallique de *Saccharomyces cerevisiae* Hansen
A. ARNAUD, FRANCOISE VEZINHET et P. GALZY 425

Etude de la respiration de la levure au cours de la sporulation
FRANÇOISE VEZINHET, A. ARNAUD et P. GALZY 1179

Viens, P.
The effect of reticulocytosis on *Plasmodium vinckei* infection in white mice. Action of phenylhydrazine and of repeated bleedings
P. VIENS, J. L. CHEVALIER, S. SONEA, and M. YOELI 257

Vining, L. C.
Metabolism of chloramphenicol by the producing organism. Some properties of chloramphenicol hydrolase
V. S. MALIK and L. C. VINING 1287

Voegelin, W. S.
Presence of sacs enveloping the liquid droplets on developing sclerotia of *Sclerotinia sclerotiorum* (Lib.) DeBary
N. COLOTELO, J. L. SUMNER, and W. S. VOEGELIN 300

Chemical studies on the exudate and developing sclerotia of *Sclerotinia sclerotiorum* (Lib.) DeBary
N. COLOTELO, J. L. SUMNER, and W. S. VOEGELIN 1189

Wadell, G.
Immunological relationships between capsid components of adenoviruses of different host cell species origin
E. NORRBY, R. G. MARUSYK, and G. WADELL 1227

Walcroft, M. J.
Emesis and diarrhea induced by enterotoxin of *Clostridium perfringens* type A in monkeys
A. H. W. HAUSCHILD, M. J. WALCROFT, and W. CAMPBELL 1141

Walker, A. A.
Effect of irradiation temperature in the range −196 to 95C on the resistance of spores of *Clostridium botulinum* 33A in cooked beef
N. GRECZ, A. A. WALKER, ABE ANELLIS, and D. BERKOWITZ 135

Wallace, R.
A tissue culture technique for the assay of antibacterial immune sera
B. B. DIENA, R. WALLACE, C. P. KENNY, and L. GREENBERG 13

Walsh, B. L.
The regulation of phenolic acid synthesis in *Bacillus subtilis*
B. L. WALSH, W. J. PETERS, and R. A. J. WARREN 53

The iron-uptake system of *Bacillus subtilis*
B. L. WALSH and R. A. J. WARREN 175

Iron uptake in *Salmonella typhimurium*
B. L. WALSH and R. A. J. WARREN 213

Chelating agents and the growth of *Micrococcus lysodeikticus*
B. L. WALSH, JANET O'DOR, and R. A. J. WARREN 593

Ward, E. W. B.
The amino acid source of HCN in cultures of a psychrophilic basidiomycete
E. W. B. WARD, G. D. THORN, and A. N. STARRATT 1061

Ward, G. W.
Reversible inactivation and dissociation of glutamine synthetase of *Neurospora crassa* by urea
G. W. WARD and M. KAPOOR 451

Wardlaw, A. C.
Disruption of *Bordetella pertussis* in the Ribi Cell Fractionator. 1. Effect of different pressures
E. HOLLINGER and A. C. WARDLAW 1169

Disruption of *Bordetella pertussis* in the Ribi Cell Fractionator. 2. Effect of different suspending media
E. HOLLINGER and A. C. WARDLAW 1195

Warren, R. A. J.
The regulation of phenolic acid synthesis in *Bacillus subtilis*
B. L. WALSH, W. J. PETERS, and R. A. J. WARREN 53

The iron-uptake system of *Bacillus subtilis*
B. L. WALSH and R. A. J. WARREN 175

Iron uptake in *Salmonella typhimurium*
B. L. WALSH and R. A. J. WARREN 213

Chelating agents and the growth of *Micrococcus lysodeikticus*
B. L. WALSH, JANET O'DOR, and R. A. J. WARREN 593

Isolation and properties of a bacteriophage lytic for a wide range of pseudomonads
R. A. KELLN and R. A. J. WARREN 677

Watanabe, H.
Effect of infection with R23 on DNA and RNA synthesis in *Escherichia coli*
HIROKO WATANABE and MAMORU WATANABE 461

Watanabe, M.
Effect of infection with R23 on DNA and RNA synthesis in *Escherichia coli*
HIROKO WATANABE and MAMORU WATANABE 461

Weaver, R. E.
Cellular fatty acids of nonpathogenic *Neisseria*
MARY ANN LAMBERT, D. G. HOLLIS, C. W. MOSS, R. E. WEAVER, and M. L. THOMAS 1491

Webb, S. J.
The action of hydrolytic enzymes and vapor rehydration on semidried cells of *Klebsiella pneumoniae*
J. R. MALTMAN and S. J. WEBB 1443

Webb, T. S.
Comparison of herpes simplex antigens prepared from various tissues
J. R. POLLEY and T. S. WEBB 821

Weber, J.
Cutaneous skin test for delayed hypersensitivity in hamsters to viral induced tumor antigens
RICHARD G. OLSEN, JAMES R. MCCAMMON, JOSEPH WEBER, and DAVID S. YOHN 1145

Wensley, R. N.
The microflora of peach bark and its possible relation to perennial canker (*Leucostoma cinta* (Fr.) v. Hohnel (*Valsa cincta*))
R. N. WENSLEY 333

Wentworth, J. W.
Ultraviolet radiation studies on the colonial alga, *Eudorina elegans*
C. L. KEMP and J. W. WENTWORTH 1417

Werkowski, S.
Estimation of an equivalent "12D" process by the normal distribution method
ABE ANELLIS and STANLEY WERKOWSKI 1185

Westwood, J. C. N.
Serological cross-reactivity within the picornaviruses as studied by electron microscopy
R. K. CHAUDHARY, D. A. KENNEDY, and J. C. N. WESTWOOD 477

Immunodiffusion studies on the myxoviruses. III. Identification of the structural antigens of Myxovirus influenza A/PR8
C. MARGARET JOHNSON and JOHN C. N. WESTWOOD 915

The production and assay of Myxovirus influenza A/PR8 in suspension cultures of a continuous cell line of human origin (G2)
C. MARGARET JOHNSON and JOHN C. N. WESTWOOD 1335

White, D.
Increase in glyoxylate shunt enzymes during cellular morphogenesis in *Myxococcus xanthus*
J. BLAND, WU-KUANG YEH, D. WHITE, and A. HENDRICKS 209

Wilson, H. E.
Therapeutic effects of a series of non-viral interferon inducers on a viral-induced leukemia
M. S. RHEINS, A. D. BARKER, and H. E. WILSON 1259

Wilt, J. C.
Lysosomes in L cells infected with *Chlamydia psittaci* 6BC strain
NONNA KORDOVÁ, JOHN C. WILT, and MOHAMMED SADIQ 955

Purification and properties of a chlamydial hemagglutinogen.
H. SAYED and J. C. WILT 1509

Winely, C. L.
The effect of two herbicides (CIPC and eptam) on oxidative phosphorylation by *Nitrobacter agilis*
C. L. WINELY and C. L. SAN CLEMENTE 47

Winters, H.
Polyacrylamide gel electrophoresis of exoenzymes produced by *Pseudomonas fluororescens* strain W
HARVEY WINTERS and W. A. CORPE 241

Wiseman, G. M.
Purification of epidermidins, new antibiotics from staphylococci
CHUN-YANG HSU and G. M. WISEMAN 1223

Wolgamott, G. D.
Initiation of spore germination in *Bacillus cereus*: a proposed allosteric receptor
GARY D. WOLGAMOTT and NORMAN N. DURHAM 1043

Yamamoto, T.
Characterization of a canine adenovirus hemagglutinin
R. G. MARUSYK and T. YAMAMOTO 151

Enzyme cytochemistry and autoradiography of adenovirus-infected cells as determined with the electron microscope
T. YAMAMOTO and M. S. SHAHRABADI 249

Yano, Y.
Fractionation of staphylococcal enterotoxin C_2 by isoelectric focusion
P.-C. CHANG, Y. YANO, M. DIGHTON, and N. DICKIE 1367

Yeh, W. K.
Increase in glyoxylate shunt enzymes during cellular morphogenesis in *Myxococcus xanthus*
J. BLAND, WU-KUANG YEH, D. WHITE, and A. HENDRICKS 209

Yoeli, M.
The effect of reticulocytosis on *Plasmodium vinckei* infection in white mice. Action of phenylhydrazine and of repeated bleedings
P. VIENS, J. L. CHEVALIER, S. SONEA, and M. YOELI 257

Yohn, D. S.
Cutaneous skin test for delayed hypersensitivity in hamsters to viral induced tumor antigens
RICHARD G. OLSEN, JAMES R. MCCAMMON, JOSEPH WEBER, and DAVID S. YOHN 1145

York, A. E.
The Dome fermentor: a versatile unit suitable for batch, continuous, and synchronous cultivation of microorganisms or tissue cells
P. S. S. DAWSON, W. G. W. KURZ, M. ANDERSON, and A. E. YORK 229

Yu, K. K.-Y.
Cation content and cation-exchange capacity of intact cells and cell envelopes of viomycin-sensitive and -resistant strains of *Rhizobium meliloti*
K. K.-Y. YU and D. C. JORDAN **1283**

Yu, L.
Intraspecific transduction in *Staphylococcus epidermidis* and interspecific transduction between *Staphylococcus aureus* and *Staphylococcus epidermidis*
LING YU and J. N. BALDWIN **767**

Zacharuk, R. Y.
Ultrastructural changes in tissues of larval Elateridae (Coleoptera) infected with the fungus *Metarrhizium anisopliae*
R. Y. ZACHARUK **281**

Fine structure of the fungus *Metarrhizium anisopliae* infecting three species of larval Elateridae (Coleoptera). IV. Development within the host
R. Y. ZACHARUK **525**

Zancan, G. T.
Leloir's pathway in *Polyporus circinatus*
GLACI T. ZANCAN **563**

Zucker, M.
Inducible pectate lyase synthesis and phytopathogenicity of *Pseudomonas fluorescens*
MILTON ZUCKER and LESTER HANKIN **1313**

Zwadyk, P.
Purification and kinetic studies of the hemolysin from *Escherichia coli*
PETER ZWADYK, JR. and I. S. SNYDER **741**

Zyskind, J. W.
Lysis of *Bacillus subtilis*, *Escherichia coli*, and *Staphylococcus aureus* by phenethyl alcohol
J. WEAVER ZYSKIND and P. A. PATTEE **565**